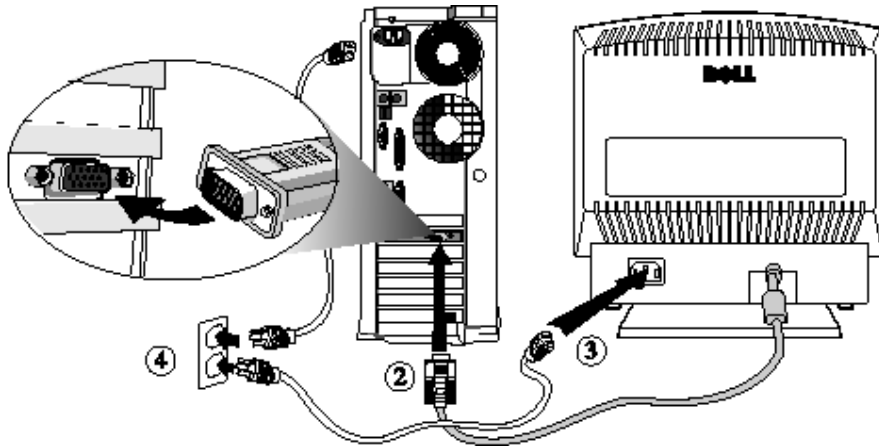


# Attaching the Cables: Dell™ UltraScan P780 Color Monitor

## User's Guide

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### Cable Connections On Back of Monitor and Computer

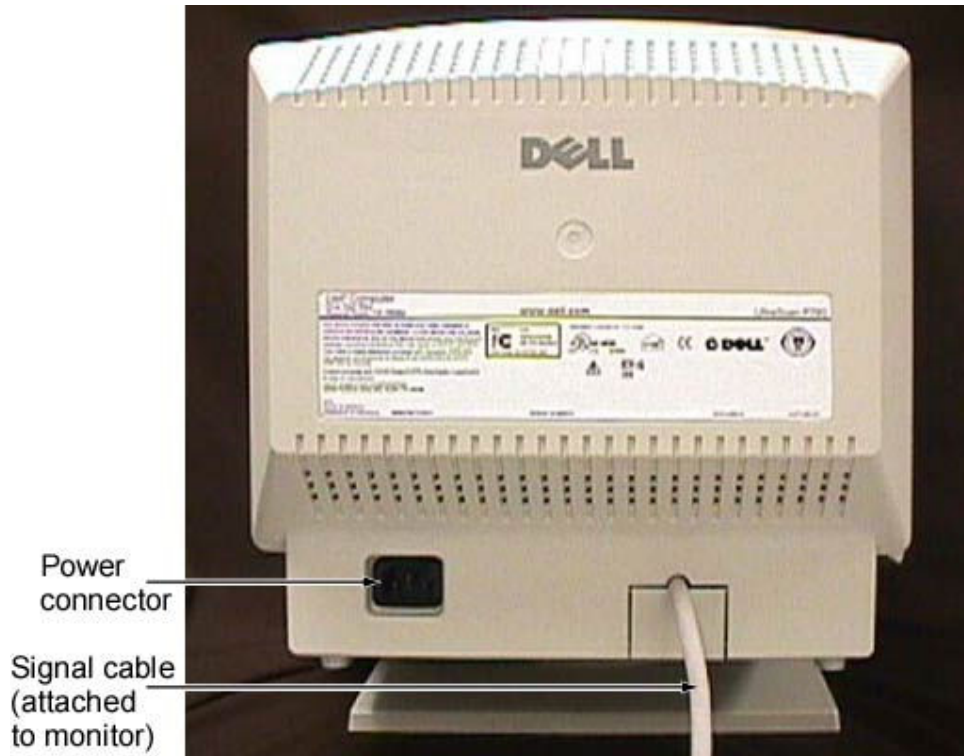


1. Turn off your computer and unplug its power cable.
2. Connect the blue connector of signal cable to the blue video port on the back of your computer.
3. Connect the power cable for your monitor to the power port on the back of the monitor.
4. Plug the power cables of your computer and your monitor into a nearby outlet.
5. Turn on your monitor and computer.

If your monitor displays an image, installation is complete. If it does not display an image, see [Troubleshooting](#).

## Back View: Dell™ UltraScan P780 Color Monitor User's Guide

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## Bottom View: Dell™ UltraScan P780 Color Monitor User's Guide

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**⚠ CAUTION: The tilt/swivel base is not detachable.**

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# Controls and Indicators: Dell™ UltraScan P780 Color Monitor

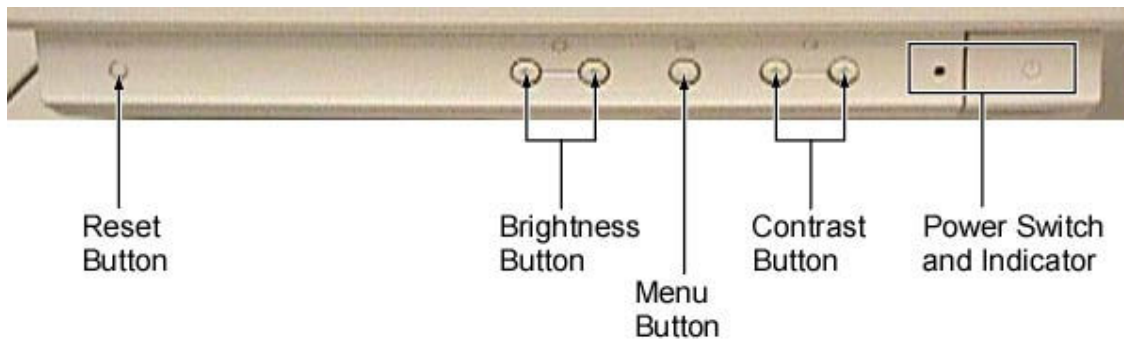
## User's Guide

[Overview](#) • [Introducing the On Screen Display \(OSD\) System](#) • [Automatic Save](#) • [Size/Center](#) • [Geometry](#) • [Color](#) • [Convergence](#) • [Language](#) • [Options](#) • [Help](#) • [Recall Features](#) • [All OSD Messages](#) • [LED Indicators](#)

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### Overview

Use the control buttons on the front of the monitor to adjust the characteristics of the image being displayed. As you use these buttons to adjust the controls, an on-screen display (OSD) shows their numeric values as they change.





#### Button Name

#### Description

 Reset button

Resets the adjustments to the factory settings.



 Brightness buttons


Adjust the picture brightness. Operate as the  /  buttons when adjusting other items.

 Menu button

Displays the MENU OSD.

 Contrast buttons

Adjust the contrast. Operate as the  /  buttons when adjusting other items.

 Power switch and indicator (LED)

Turns the monitor on and off. The indicator lights up green when the monitor is on, and lights up orange when the monitor is in Power Saving mode.


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## Introducing the On Screen Display (OSD) System

1. Press the MENU button to display the Main MENU on your screen.



85.0KHZ / 76HZ  
1024X768

2. Use the ☀️ (BRIGHTNESS) ↓/↑ buttons to highlight/select the desired function.
3. Press the  (MENU) button to activate the desired function.
4. The left and right arrow button can be used for making the actual adjustments.

If the ☀️ ↓/↑ buttons are held down, the functions are selected circularly in intervals of one second.



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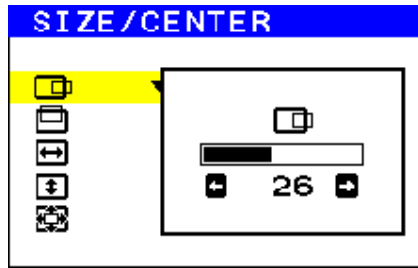
### Automatic Save

Once an adjustment is made it is automatically saved for the specific timing used during the adjustment. The monitor can be reset to factory settings if necessary (see [Recall Features](#) ).

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### SIZE/CENTER

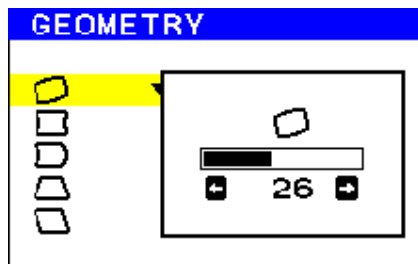
Select SIZE/CENTER from the MENU to adjust the picture's horizontal/vertical size and centering. Use the ☀️ ↓/↑ buttons to select the function you wish to adjust and the   buttons to make the adjustment.






Select	To
	Change the horizontal centering
	Change the vertical centering
	Change the horizontal sizing
	Change the vertical sizing
	Change the degree of zoom

## GEOMETRY




Select GEOMETRY from the MENU to adjust the picture's rotation and shape. Use the / buttons to select the function you wish to adjust and the / buttons to make the adjustment.

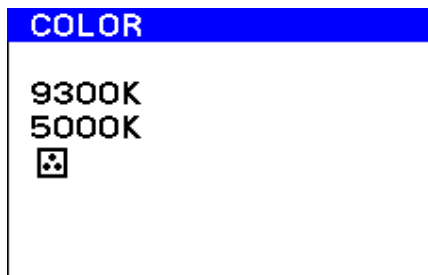



Select	To
ROTATION	Rotate the picture
PINCUSHION	Expand or contract the picture sides




 PIN BALANCE	Shift the picture sides to the left or right
 KEYSTONE	Adjust the picture width at the top and bottom of the screen
 KEY BALANCE	Shift the picture to the left or right at the top and bottom of the screen

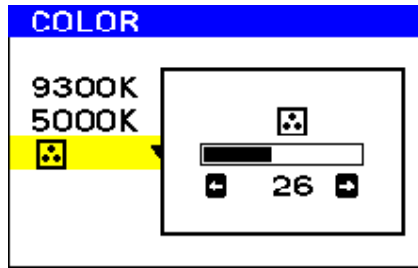
## COLOR

Select COLOR from the MENU to determine the color temperature you would like. You can use this to help with monitor and printer color matching. Use the   /  buttons to select the between the two preset color temperatures and the variable color temperature selection.



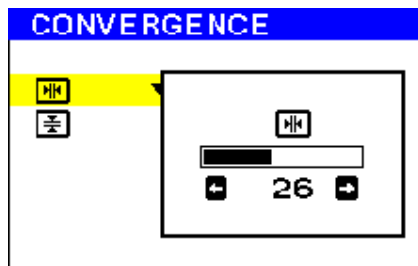
Select	To
9300K	Set at 9300K
5000K	Set at 5000K
	Specify any color temperature between 9300K and 5000K

You can also fine tune the color temperature from 9,300K to 5,000K by selecting  (Color Variable adjustment), and using the   buttons to adjust the color temperature manually.



## CONVERGENCE

Select CONVERGENCE from the MENU to adjust the picture's quality. You can adjust the vertical and horizontal convergence. Use the / buttons to select the function you wish to adjust and the buttons to make the adjustment.



Select	To
H CONVERGENCE	Eliminate horizontal red or blue color shadows
V CONVERGENCE	Eliminate vertical red or blue color shadows




## LANGUAGE

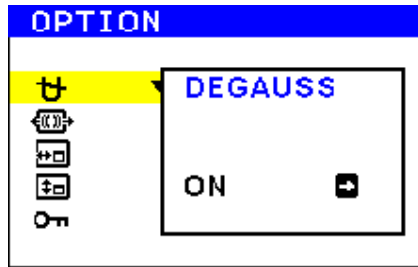
Select LANGUAGE from the MENU to choose desired OSD language. Use the / buttons to select the desired language.










## OPTION





Select OPTION from the MENU to adjust various functions. Use the   /  buttons to select the functions you wish to adjust.



Select	To
	Demagnetize the monitor manually
	Adjust moiré
	Adjust horizontal position of the OSD
	Adjust vertical position of the OSD
	Lock / Unlock OSD features. In the lock mode, a "key" symbol appears.









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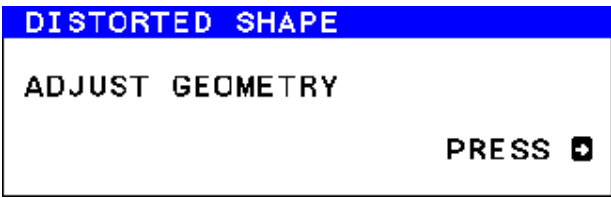
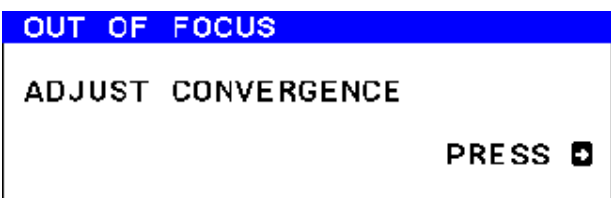
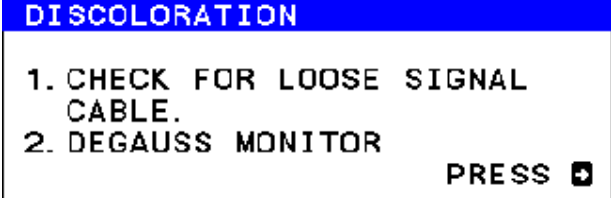
## HELP menu

Questions that are frequently asked regarding the picture quality can be answered using the HELP menu. To use, select HELP from the MENU and press the   /  buttons to highlight the topic you want to view, then press the  MENU button. Follow the instructions in each topic.

**HELP**



RETURN TO MAIN MENU  
RECOMMENDED RESOLUTION  
FLICKER  
THIN HORIZONTAL LINE  
DISTORTED SHAPE  
OUT OF FOCUS  
DISCOLORATION

Select	What you will see
RETURN TO MAIN MENU	<p><b>MENU</b> <b>OK+</b> </p> <p><b>EXIT</b></p> <ul style="list-style-type: none"><li> SIZE/CENTER</li><li> GEOMETRY</li><li> COLOR</li><li> CONVERGENCE</li><li> LANGUAGE</li><li> OPTION</li><li> HELP</li></ul> <p>85.0KHz / 76Hz 1024x768</p>
RECOMMENDED RESOLUTION	<p><b>RECOMMENDED RESOLUTION</b></p> <p>SET RESOLUTION TO 1024X768 AT 85HZ USING PC. CURRENT SETTING IS 1280X1024 AT 75Hz.</p>
FLICKER	<p><b>FLICKER</b></p> <p>SET REFRESH RATE TO 75HZ OR 85HZ USING PC. CURRENT SETTING IS 75Hz.</p>
THIN HORIZONTAL LINE	<p><b>THIN HORIZONTAL LINE</b></p> <p>NOT A MALFUNCTION. THESE ARE WIRES THAT STABILIZE THE PICTURE.</p>

DISTORTED SHAPE	
OUT OF FOCUS	
DISCOLORATION	

## RECALL FEATURES

### Resetting a single adjustment item.

1. Press the  MENU button and select the function that you want to adjust.
2. Press the  RESET button before the OSD disappears.


### Resetting all adjustments for the Current Signal.

1. Press the  RESET button when no OSD is shown on the screen.

Note: OSD Position and LANGUAGE functions do not get reset.

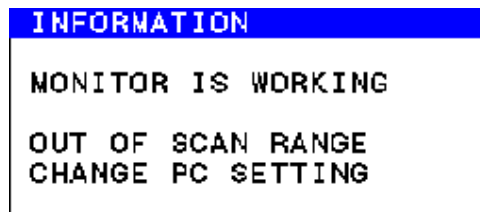
### Resetting all adjustments to Factory Presets for all video modes.

1. Press and hold the  RESET button for more than 2 seconds.

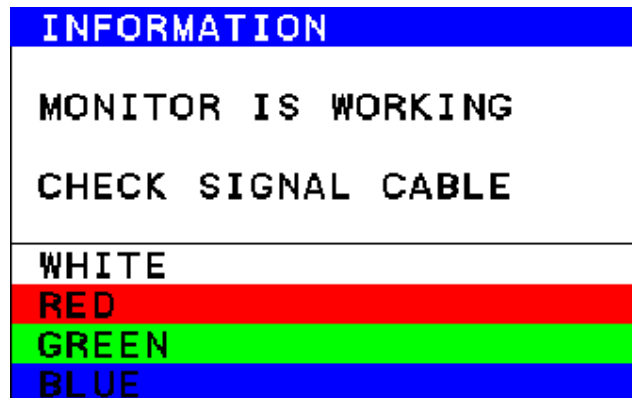
 RESET button	Holding in this button for longer than 2 seconds erases all data in the User Settings memory and returns the monitor settings to the factory defaults.
--	--

## All OSD Messages

A warning message may appear on the screen indicating that the monitor is out of sync.




This means that the monitor cannot synchronize with the signal that it is receiving from the computer. Either the signal is too high or too low for the monitor to use. See [Specifications](#) for the Horizontal and Vertical scan ranges addressable by this monitor.



This means that the video cable may not be properly connected. Check if the video cable is securely connected.

## INFORMATION

MODEL: CPD 12345  
SER NO: 123456789ABCD  
MANUFACTURED: 1998-53  
VER: 1.000 FFFFFFFF

The monitor's version information and serial number can be displayed by pressing and holding the  RESET key for more than 2 seconds, while it's displaying NO INPUT SIGNAL or OUT OF SCAN RANGE or it's in the power saving mode.

## INFORMATION

MONITOR IS IN  
POWER SAVE MODE  
  
ACTIVATE USING PC

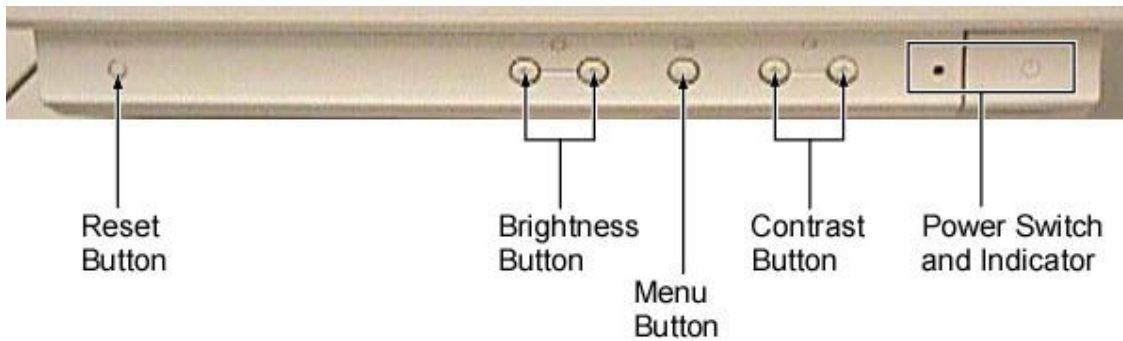
This indicates that the monitor is in power saving mode.

## LED Indicators

VESA <sup>®</sup> 's Mode	LED color
ON	Green
Stand-by	Green and Orange Alternate
Suspend	Green and Orange Alternate
Active-OFF*	Orange
Other Mode	LED color
Defective Monitor	Flashing Orange

## Front View: Dell™ UltraScan P780 Color Monitor User's Guide

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# Introduction: Dell™ UltraScan P780 Color Monitor User's Guide

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## Overview

The Dell UltraScan P780 17 inch (16 VIS) color monitor is loaded with features at an affordable price that's perfect for the demanding corporate professional. Whether you are purchasing your first computer or maintaining product consistency through the corporate rank and file, you will appreciate what the UltraScan P780 monitor has to offer. The UltraScan P780 Color Monitor has a flat CRT that helps minimize geometric distortion and reduces reflective glare that may cause eyestrain. The 17-inch (16 VIS) monitor segment has been around for a while, so you don't have to worry about a new technology being introduced rendering your current UltraScan P780 monitor obsolete.

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## Features

The UltraScan P780 color monitor has the following features:

- Optimal Resolution & Refresh                      1024 x 768 at 75 Hz or 85Hz
- VIS (viewable image size)                              406 mm (16.0 inches)
- Aperture Grill Pitch                                      0.24 - 0.25 mm
- Faceplate coating    AR/AS coating
- Physical Size (Height x Width x Depth)              414 mm x 404 mm x 420 mm (16.4 inches x 15.9 inches x 16.5 inches)
- Weight (monitor only)                                    18.8 kg (41 lbs 6 oz)
- Weight (with packaging)                                22 kg (48 lbs 6oz)

# Maintenance: Dell™ UltraScan P780 Color Monitor User's Guide



**WARNING:** To avoid risk of electric shock, do not disassemble the monitor cabinet. Users cannot service the monitor. User maintenance is restricted to cleaning.



**NOTE:** Before cleaning the monitor, unplug it from the electrical outlet.

- The **screen** surface is coated with a special thin optical coating to ensure the ergonomic characteristics. To ensure the optical performance of the coating, clean the screen surface lightly with a soft cloth. If necessary, use a soft cloth lightly moistened with a mild detergent solution (non-abrasive) diluted with water to remove hand oils or fingerprints, etc. Do not use any type of abrasive pad, scouring powder or any type of solvents containing an alcohol, benzene or similar additive as they may cause damage to the anti-reflective coating. Do not rub, touch, or tap the screen surface with sharp or abrasive items such as a ball-point pen. This contact may result in a scratched screen surface.
- To clean the monitor **cabinet**, use a cloth lightly dampened with a mild detergent.
- Wipe off stubborn stains from the **cabinet** with a cloth lightly dampened in alcohol (methyl, ethyl, or isopropyl). Do not use benzene, thinner, ammonia, abrasive cleaners, or compressed air.

## Setting the Optimal Resolution: Dell™ UltraScan P780 Color Monitor User's Guide

For optimal monitor performance while using the Microsoft® Windows® 98, Windows 95, or Windows NT® operating systems, set the display resolution to 1024 x 768 pixels by performing the following steps:

1. Click the **Start** button, point to **Settings**, and click **Control Panel**.
2. Double-click the **Display** icon in the **Control Panel** window, and then click the **Settings** tab.
3. In the **Desktop** area, move the sidebar to 1024 by 768 pixels. Then click **OK**.



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## Positioning the Monitor: Dell™ UltraScan P780 Color Monitor

### User's Guide

Consider the following environmental factors when you are deciding how to position the monitor:

- If there are any woofer speakers near the monitor, unplug and relocate the woofer to another room.
- Remove all electronic devices such as radios, fans, clocks, and telephones that are within 3 feet away of the monitor.
- If there were electronic devices removed, perform degauss again.

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## Regulatory: Dell™ UltraScan P780 Color Monitor User's Guide

[Electric and Magnetic Fields](#) • [Energy Efficiency](#) • [Federal Communications Commission \(FCC\) Notice \(U.S. Only\)](#) • [FCC Declaration of Conformity](#) • [Canadian Regulatory Information \(Canada Only\)](#) • [VCCI Class 2 Notice \(Japan Only\)](#) • [MOC Notice \(South Korea Only\)](#) • [NOM Information \(Mexico Only\)](#) • [BCIQ Notice \(Taiwan Only\)](#)

[Dell Computer Corporation's Environmental Program](#) • [Design for Recyclability](#) • [Spare Parts Policy](#)

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### Electric and Magnetic Fields



## **Congratulations!**

You have just purchased a TCO'99 approved and labeled product! Your choice has provided you with a product developed for professional use. Your purchase has also contributed to reducing the burden on the environment and also to the further development of environmentally adapted electronics products.

### **Why do we have environmentally labeled computers?**

In many countries, environmental labeling has become an established method for encouraging the adaptation of goods and services to the environment. The main problem, as far as computers and other electronics equipment are concerned, is that environmentally harmful substances are used both in the products and during their manufacture. Since it is not so far possible to satisfactorily recycle the majority of electronics equipment, most of these potentially damaging substances sooner or later enter nature.

There are also other characteristics of a computer, such as energy consumption levels, that are important from the viewpoints of both the work (internal) and natural (external) environments. Since all methods of electricity generation have a negative effect on the environment (e.g. acidic and climate-influencing emissions, radioactive waste), it is vital to save energy. Electronics equipment in offices is often left running continuously and thereby consumes a lot of energy.

### **What does labeling involve?**

This product meets the requirements for the TCO'99 scheme which provides for international and environmental labeling of personal computers. The labeling scheme was developed as a joint effort by the TCO (The Swedish Confederation of Professional Employees), Svenska Naturskyddsforeningen (The Swedish Society for Nature Conservation) and Statens Energimyndighet (The Swedish National Energy Administration).

Approval requirements cover a wide range of issues: environment, ergonomics, usability, emission of electric and magnetic fields, energy consumption and electrical and fire safety.

The environmental demands impose restrictions on the presence and use of heavy metals, brominated and chlorinated flame retardants, CFCs (freons) and chlorinated solvents, among other things. The product must be prepared for recycling and the manufacturer is obliged to have an environmental policy which must be adhered to in each country where the company implements its operational policy.

The energy requirements include a demand that the computer and/or display, after a certain period of inactivity, shall reduce its power consumption to a lower level in one or more stages. The length of time to reactivate the computer shall be reasonable for the user.

Labeled products must meet strict environmental demands, for example, in respect of the reduction of electric and magnetic fields, physical and visual ergonomics and good usability.

Below you will find a brief summary of the environmental requirements met by this product. The complete environmental criteria document may be ordered from:

## TCO Development

SE-114 94 Stockholm, Sweden

Fax: +46 8 782 92 07

Email (Internet): [development@tco.se](mailto:development@tco.se)

Current information regarding TCO'99 approved and labeled products may also be obtained via the Internet, using the address: <http://www.tco-info.com/>

### Environmental requirements

#### Flame retardants

Flame retardants are present in printed circuit boards, cables, wires, casings and housings. Their purpose is to prevent, or at least to delay the spread of fire. Up to 30% of the plastic in a computer casing can consist of flame retardant substances. Most flame retardants contain bromine or chloride, and those flame retardants are chemically related to another group of environmental toxins, PCBs. Both the flame retardants containing bromine or chloride and the PCBs are suspected of giving rise to severe health effects, including reproductive damage in fish-eating birds and mammals, due to the bio-accumulative processes. Flame retardants have been found in human blood and researchers fear that disturbances in foetus development may occur.

The relevant TCO'99 demand requires that plastic components weighing more than 25 grams must not contain flame retardants with organically bound bromine or chlorine. Flame retardants are allowed in the printed circuit boards since no substitutes are available.

#### Cadmium\*\*

Cadmium is present in rechargeable batteries and in the colour-generating layers of certain computer displays. Cadmium damages the nervous system and is toxic in high doses. The relevant TCO'99 requirement states that batteries, the colour-generating layers of display screens and the electrical or electronics components must not contain any cadmium.

#### Mercury\*\*

Mercury is sometimes found in batteries, relays and switches. It damages the nervous system and is toxic in high doses. The relevant TCO'99 requirement states that batteries may not contain any mercury. It also demands that mercury is not present in any of the electrical or electronics components associated with the labeled unit.

#### CFCs (freons)

The relevant TCO'99 requirement states that neither CFCs nor HCFCs may be used during the manufacture and assembly of the product. CFCs (freons) are sometimes used for washing printed circuit boards. CFCs break down ozone and thereby damage the ozone layer in the stratosphere, causing increased reception on earth of ultraviolet light with e.g. increased risks of skin cancer (malignant melanoma) as a consequence.

## Lead\*\*

Lead can be found in picture tubes, display screens, solders and capacitors. Lead damages the nervous system and in higher doses, causes lead poisoning. The relevant TCO'99 requirement permits the inclusion of lead since no replacement has yet been developed.

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\* *Bio-accumulative is defined as substances which accumulate within living organisms*

\*\* *Lead, Cadmium and Mercury are heavy metals which are Bio-accumulative.*

## Energy Efficiency



The proper operation of the function requires a computer with VESA® DPMS power management capabilities. When used with a computer equipped with VESA DPMS, the monitor is ENERGY STAR®-compliant.

As an ENERGY STAR® Partner, Dell Computer Corporation has determined that this product meets the ENERGY STAR® guidelines for energy efficiency.

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## Federal Communications Commission (FCC) Notice (U.S. Only)

**⚠ WARNING:** This equipment has been tested and found to comply with the limits for a Class B digital device, pursuant to Part 15 of the FCC Rules. These limits are designed to provide reasonable protection against harmful interference in a residential installation. This equipment generates, uses, and can radiate radio frequency energy and, if not installed and used in accordance with the instructions, may cause harmful interference to radio communications. However, there is no guarantee that interference will not occur in a particular installation. If this equipment does cause harmful interference to radio or television reception, which can be determined by turning the equipment off and on, the user is encouraged to try to correct the interference by one or more of the following measures:

- Reorient or relocate receiving antenna.
- Increase the separation between the equipment and receiver.
- Connect the equipment into an outlet on a circuit different from that to which the receiver is connected.


- Consult the dealer or an experienced radio/TV technician for help.

This device complies with Part 15 of the FCC rules. Operation is subject to the following two conditions:

- This device may not cause harmful interference.
- This device must accept any interference received including interference that may cause undesired operation.

**Instructions to Users:** This equipment complies with the requirements of FCC (Federal Communication Commission) equipment provided that following conditions are met.

1. Power cable: Shielded power cable must be used.
2. Video inputs: The input signal amplitude must not exceed the specified level.

 **CAUTION: Changes or modifications not expressly approved by the party responsible for compliance could void the user's authority to operate the equipment.**

---

## FCC Declaration of Conformity

## Declare Form

### Information for the Modification/Additional Model

Trade name : Dell Computer Corp.  
Model(s) : P790

Original Model : CPU-x200

### Description of modification(s) from the Original Model

- Model name and Brand name.

See attachment sheet(s)

### Declaration

- The Modified/Additional model(s) is/are identical to the original model except for the above mentioned modification(s).  
The modification(s) never affect the emission characteristics of Original Model.  
Therefore, we declare that the Modified/Additional model(s) are complied with the applicable technical standard of Part 15 of the FCC Rules.
- The Modified/Additional model(s) is/are identical to the original model except for the above modification(s).  
The modification(s) improve the emission characteristics of Original Model.  
Therefore, we declare that the Modified/Additional model(s) are complied with the applicable technical standard of Part 15 of the FCC Rules.
- The Modified/Additional model(s) is/are identical to the original model except for the above modification(s).  
Since the modification(s) adversely affect the emission characteristics of Original Model, so we have retested the Modified/Additional model(s) as EMI AP (revisited) etc.  
Then, we have confirmed that the Modified/Additional model(s) continued to comply with the applicable technical standard of Part 15 of the FCC Rules.

Signature : *T. Mordok*  
Name : T. Mordok  
Title : Assistant manager, IS Production, Computer Display Div.  
Display Company  
Date : April 15, 1999

### Responsible Party

Responsible Party : Ray Electronics Inc.  
Address : 1 Sunny Drive, Park Ridge, NJ 07656 USA  
Signature : *[Signature]*  
Name : J. Forse  
Date : 4/22/99

## Canadian Regulatory Information (Canada Only)

This digital apparatus does not exceed the Class B limits for radio noise emissions from digital apparatus set out in the Radio Interference Regulations of the Canadian Department of Communications.

Note that Canadian Department of Communications (DOC) regulations provide, that changes or modifications not expressly approved by Dell Computer Corporation could void your authority to operate this equipment.

This Class B digital apparatus meets all requirements of the Canadian Interference-Causing Equipment Regulations.

Cet appareil numérique de la classe B respecte toutes les exigences du Règlement sur le matériel brouilleur du Canada.

---

## VCCI Class 2 Notice (Japan Only)

This equipment complies with the limits for a Class 2 digital device (devices used in or adjacent to a residential environment) and conforms to the standards for information technology equipment that are set by the Voluntary Control Council for Interference for preventing radio frequency interference in residential areas.



Class B ITE

この装置は、情報処理装置等電波障害防止規制協議会（VCCI）の基準に基づきクラス B 標準技術装置です。この装置は家庭環境で使用することを目的としていますが、この装置がソフトウェアやアプレジション受信機に接続して使用するると、電磁障害を引き起こすことがあります。取扱説明書に従って正しい取り扱いをしてください。

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## MOC Notice (South Korea Only)

Class B Device

참치 종류	사용처 안내문
비급 기기	이 장치는 가정용으로 전자파 적합성 인증 한 장치로서 주거지역에서는 물론 모든 지역에서 사용할 수 있습니다.

Please note that this device has been approved for nonbusiness purposes and may be used in any environment, including residential areas.



---

## NOM Information (Mexico Only)

The following information is provided on the device(s) described in this document in compliance with the requirements of the official Mexican standards (NOM)

Exporter: Dell Computer Corporation  
One Dell Way  
Round Rock, TX 78682  
Dell Computer de México,  
Importer: S.A. de C.V. Rio Lerma No. 302 - 4° Piso  
Col. Cuauhtemoc 16500 México, D.F.  
Dell Computer de México,  
Ship to: S.A. de C.V. al Cuidado de Kuehne & Nagel  
de México S. de R.I., Avenida Soles No. 55  
Col. Peñon de los Baños, 15520 México, D.F.  
Supply voltage: > 100/240 VAC  
Frequency: 50/60 Hz  
Current consumption: 1.2 A

#### **Información para NOM (únicamente para México)**

La información siguiente se proporciona en el dispositivo o en los dispositivos descritos en este documento, en cumplimiento con los requisitos de la Norma Oficial Mexicana (NOM):

Exporter: Dell Computer Corporation  
One Dell Way  
Round Rock, TX 78682  
Importador: Dell Computer de México,  
S.A. de C.V. Rio Lerma No. 302 - 4° Piso  
Col. Cuauhtemoc 16500 México, D.F.  
Embarcar a: Dell Computer de México,  
S.A. de C.V. al Cuidado de Kuehne & Nagel  
de México S. de R.I., Avenida Soles No. 55  
Col. Peñon de los Baños, 15520 México, D.F.  
Tensión alimentación: 100/240 VAC  
Frecuencia: 50/60 Hz  
Consumo de corriente: 1.2 A

---

#### **BCIQ Notice (Taiwan Only)**

警告使用者：這是甲類的資訊產品，在居住的環境中使用時，可能會造成無線  
電干擾，在這種情況下，使用者會被要求採取某些適當的對策。



# Dell Computer Corporation's Environmental Program

## Design for Recyclability

Your Dell equipment complies with the following principles of recyclable design:

- Avoidance of nonseparable connections, such as gluing and welding, between different materials
- Avoidance of coatings and composite structure materials
- Use of as few different materials as possible
- Designed for ease of disassembly:
  - Subassemblies, cables, and components easily detachable by one person working alone
  - Minimal use of screws
  - Most disassembly can be done by hand or with the aid of a standard 6-millimeter (1/4-inch) nut driver only

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### Spare Parts Policy


Dell commits to retaining stocks of spare parts (or reasonable alternatives) for a period of five years from the termination of production of the Dell system component—for example, the base system, the keyboard, or the monitor.

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## Safety Instructions: Dell™ UltraScan P780 Color Monitor

### User's Guide

 **WARNING: Use of controls, adjustments, or procedures other than those specified in this documentation may result in exposure to shock, electrical hazards, and/or mechanical hazards.**

Read and follow these instructions when connecting and using your computer monitor:

- To help avoid damaging your computer, be sure that the voltage selection switch on the power supply is set to match the alternating current (AC) power available at your location:
  - 115 volts (V)/60 hertz (Hz) in most of North and South America and some Far Eastern countries such as Japan, South Korea, and Taiwan.
  - 230 V/50 Hz in most of Europe, the Middle East, and the Far East

Also be sure that your monitor is electrically rated to operate with the AC power available in your location.

- Never insert anything metallic into the monitor openings. Doing so may create the danger of electric shock.
- To avoid electric shock, never touch the inside of the monitor. Only a qualified technician should open the monitor's case.
- Never use your monitor if the power cable has been damaged. Do not allow anything to rest on the power cable, and keep the cable away from where people could trip over it.
- Be sure to hold the plug, not the cable, when disconnecting the monitor from an electric socket.
- Openings in the monitor cabinet are provided for ventilation. To prevent overheating, these openings should not be blocked or covered. Also, avoid using the monitor on a bed, sofa, rug, or other soft surface. Doing so may block the ventilation openings in the bottom of the cabinet. If you put the monitor in a bookcase or some other enclosed space, be sure to provide adequate ventilation.
- Put your monitor in a location with low humidity and a minimum of dust. Avoid places like damp basement or dusty hallways.
- Do not expose the monitor to rain or use it near water (in kitchens, next to swimming pools, etc.). If the monitor accidentally gets wet, unplug it and contact an authorized dealer immediately. You can clean the monitor with a damp cloth when necessary, but be sure to unplug the monitor first.
- Place the monitor on a solid surface and treat it carefully. The screen is made of glass and can be damaged if dropped or sharply hit.
- Locate your monitor near an easily accessible electric outlet.
- If your monitor does not operate normally - in particular, if there are any unusual sounds or smells coming from it - unplug it immediately and contact an authorized dealer or service center.
- Do not attempt to remove the back cover, as you will be exposed to a shock hazard. The back cover should only be removed by qualified service personnel.
- High temperatures can cause problems. Don't use your monitor in direct sunlight, and keep it away from heaters, stoves, fireplaces, and other sources of heat.
- Unplug the monitor when it is going to be left unused for an extended period of time.
- Unplug your monitor from the electric outlet before any service.

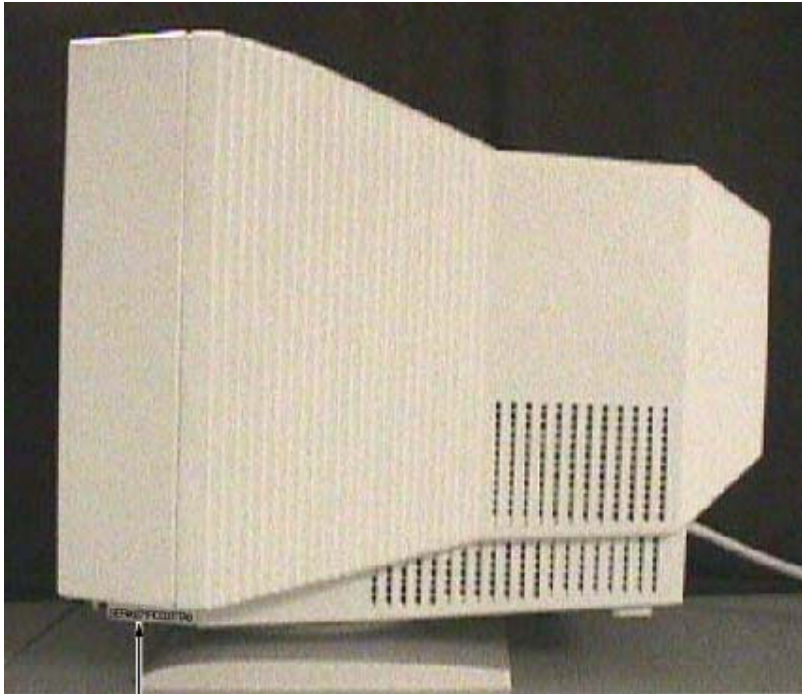
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## Side View: Dell™ UltraScan P780 Color Monitor User's Guide

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Serial Number

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# Specifications: Dell™ UltraScan P780 Color Monitor User's Guide

[General](#) • [CRT](#) • [Resolution](#) • [Preset Display Modes](#) • [Electrical](#) • [Physical Characteristics](#) • [Environmental](#) • [Power Management Modes](#) • [Pin Assignments](#) • [Plug and Play Capability](#)

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## General

Model number	P780
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## CRT

Screen dimensions	17 inches (16-inch viewable image size)
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Preset display area:

Horizontal	312 ± 5.0 mm
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Vertical	234 ± 5.0 mm
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Aperture Grill Pitch	0.24 - 0.25 mm
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Deflection angle	90°
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Phosphor type	P22
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Faceplate coating	Conductive AR/AS coating
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## Resolution

Horizontal scan range	30 kHz to 85 kHz (automatic)
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Vertical scan range	48 Hz to 120 Hz (automatic)
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Optimal preset resolution	1024 x 768 at 85 Hz
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Highest preset resolution	1600 x 1200 at 60 Hz
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Highest addressable resolution*	1600 x 1200 at 65 Hz
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\* Addressable means the monitor will sync up to this mode. However, Dell does not guarantee the image will be sized, centered or shaped correctly.

Dell guarantees image size and centering for all preset modes listed in the following table.

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## Preset Display Modes

Display Mode	Horizontal Frequency (kHz)	Vertical Frequency (Hz)	Pixel Clock (MHz)	Sync Polarity (Horizontal / Vertical)
VGA (text), 720 x 400	31.5	70.1	28.3	-/+
VEGA (graphics), 640 x 480	31.5	59.9	25.2	-/-
VESA <sup>®</sup> , 640 x 480	37.5	75.0	31.5	-/-
VESA, 640 x 480	43.3	85.1	36.0	-/-
VESA, 800 x 600	46.9	75.0	49.5	+/+
VESA, 800 x 600	53.7	85.1	56.3	+/+
VESA, 1024 x 768	60.0	75.0	78.5	+/+
VESA, 1024 x 768	68.7	85.0	94.5	+/+
VESA, 1280 x 1024	80.0	75.0	135.0	+/+
VESA, 1600 x 1200	75.0	60.0	162.0	+/+

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## Electrical

Video input signals	analog, 0.7 Vpp, positive at 75 ohm
Synchronization input signals	separate horizontal and vertical; TTL level, positive or negative, video composite (sync on green) 0.3 Vp-p.
AC input voltage / frequency / current	100 to 120 VAC / 50 or 60 Hz 220 to 240 VAC / 50 or 60 Hz 1.7 A (RMS) at 100 VAC and 0.9 A (RMS) at 240 VAC
Inrush current at 120 V	42 A
Inrush current at 240 V	75 A

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## Physical Characteristics

Connector type	15-pin D-subminiature
Signal cable type	attached to monitor
Dimensions:	
Height	414 mm (16.4 inches)
Width	404 mm (15.9 inches)
Depth	420 mm (16.5 inches)
Weight (monitor only)	18.8 kg (41 lbs 6 oz)
Weight (with packaging)	22 kg (48 lbs 6 oz)

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## Environmental

### Temperature:

Operating	10° to 40°C (40° to 104°F)
Nonoperating	-20° to 60°C (-40° to 140°F)

### Humidity:

Operating	20% to 80% (noncondensing)
Nonoperating	5% to 90% (noncondensing)

### Altitude:

Operating	3,048 m (10,000 ft)
Nonoperating	10,675 m (35,000 ft)

Thermal dissipation	410 BTU/hour (Maximum), 325 BTU/hour (Typical)
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## Power Management Modes

If you have VESA's DPMS compliance display card or software installed in your PC, the monitor can automatically reduce its power consumption when not in use. If input from keyboard, mouse or other input devices is detected, the monitor will automatically "wake up". The following table shows the power consumption and signaling of this automatic power saving feature:

Power Management Definition					
VESA's Mode	Video	H-sync	V-sync	Power Used	LED color

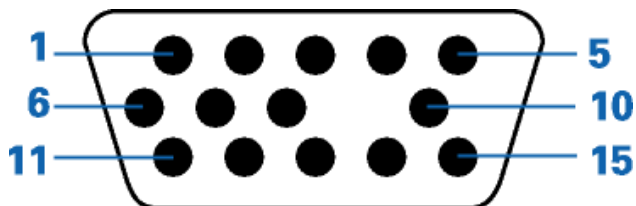
ON	Active	Yes	Yes	maximum 120W typical 95W	Green
Stand-by	Blanked	No	Yes	<15W	Green and Orange Alternate
Suspend	Blanked	Yes	No	<15W	Green and Orange Alternate
Active- OFF*	Blanked	No	No	<3W	Orange

This monitor is ENERGY STAR®-compliant and TCO'99 power management compatible.



ENERGY STAR® is a U.S. registered mark. As an ENERGY STAR® Partner, DELL has determined that this product meets the ENERGY STAR® guidelines for energy efficiency.

## Pin Assignments



Pin Number	15-Pin Side of the Signal Cable
1	Video-Red

2	Video-Green
3	Video-Blue
4	GND
5	CPU sense
6	GND-R
7	GND-G
8	GND-B
9	No pin present
10	GND-sync/self-raster
11	GND
12	DDC data
13	H-sync
14	V-sync
15	DDC clock

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## Plug and Play Capability

You can install the monitor in any Plug and Play-compatible system. The monitor automatically provides the computer system with its Extended Display Identification Data (EDID) using Display Data Channel (DDC) protocols so the system can configure itself and optimize the monitor settings. If desired, the user can select different settings, but in most cases monitor installation is automatic.

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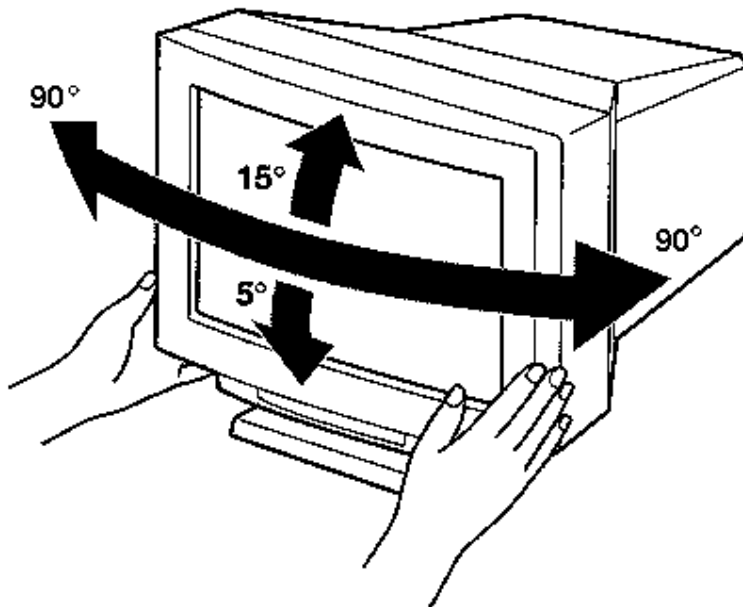


# Tilt/Swivel Base: Dell™ UltraScan P780 Color Monitor User's Guide

- [Pedestal](#)
- 

## Pedestal

With the built-in pedestal, you can tilt and/or swivel the monitor for the most comfortable viewing angle.



**⚠ CAUTION: The tilt/swivel base is not detachable.**

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# Troubleshooting: Dell™ UltraScan P780 Color Monitor User's Guide

[Monitor Specific Troubleshooting](#) • [Common Problems](#) • [Product Specific Problems](#)

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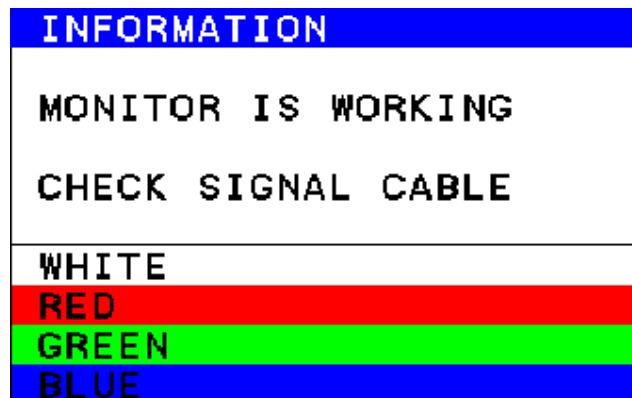
## Monitor Specific Troubleshooting

### Self-Test Feature Check (STFC)

Your monitor provides a self-test feature that allows you to check whether your monitor is functioning properly. If your monitor and computer are properly connected but the monitor screen remains dark, run the monitor self-test by performing the following steps:

1. Turn off your monitor.
2. Unplug the video cable from the back of the computer.
3. Turn on the monitor and wait for five seconds.

If the monitor is functioning properly, you will see a box as shown in the following illustration:



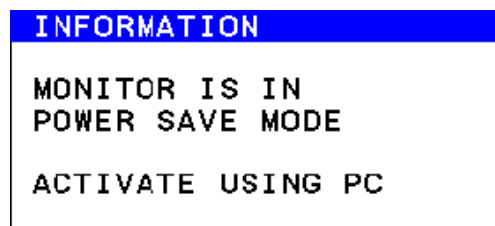
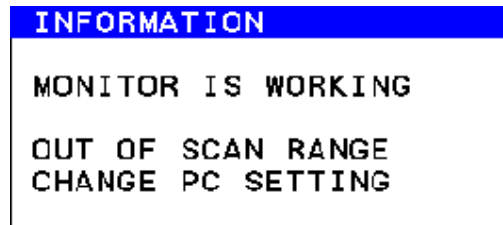
This box also appears during normal system operation if the video cable becomes disconnected or damaged.

1. Turn off your monitor and reconnect the video cable; then turn on both your computer and the monitor.
2. While in self-test mode, the LED remains green and the pattern remains on for 30 seconds.

If your monitor screen remains blank after you use the previous procedure, check your video controller and computer system; your monitor is functioning properly.

## On-Screen Warning Messages

If there is something wrong with the input signal, a message appears on the screen or the screen goes blank although the power indicator LED is still on. The message may indicate that the monitor is out of scan range or that you need to activate it using your computer.



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## Common Problems

The following table contains general information about common monitor problems you might encounter.

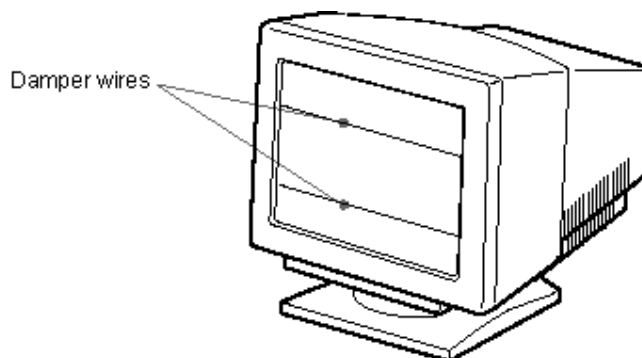
COMMON SYMPTOMS	WHAT YOU SEE	POSSIBLE SOLUTIONS
No Video/LED off	No picture, monitor's dead.	<ul style="list-style-type: none"><li>• Check connection integrity</li><li>• Electric outlet verification</li><li>• Ensure power button depressed fully</li></ul>
No Video/LED on	No picture or no brightness	<ul style="list-style-type: none"><li>• Increase brightness &amp; contrast controls</li><li>• Perform monitor self test feature check</li><li>• Check for bent or broken pins</li></ul>
Poor Focus	Picture is fuzzy, blurry or ghosting	<ul style="list-style-type: none"><li>• Eliminate video extension cables</li><li>• Perform monitor reset</li><li>• Decrease brightness &amp; contrast controls</li><li>• Lower video resolution or increase font size</li></ul>

Shaky/Jittery Video	Wavy picture or fine movement	<ul style="list-style-type: none"> <li>• Perform monitor reset</li> <li>• Check environmental factors</li> <li>• Relocate and test in other room</li> </ul>
Color Purity Problems	Color is not uniform  Has color blotches or shades	<ul style="list-style-type: none"> <li>• Perform degauss</li> <li>• Perform monitor reset</li> <li>• Check environmental factors esp. woofers</li> </ul>
Color Convergence Problems	Characters show red or blue at edges	<ul style="list-style-type: none"> <li>• Perform monitor reset</li> <li>• Adjust the color convergence controls</li> </ul>
Missing Color or Color Flood	Entire screen is purple or yellow  Entire screen is red, green or blue	<ul style="list-style-type: none"> <li>• Perform monitor reset</li> <li>• Perform monitor self test feature check</li> <li>• Check for bent or broken pins</li> <li>• Reseat the video card</li> </ul>
Missing Pixels	CRT screen has spots, specs or blemishes on the glass	<ul style="list-style-type: none"> <li>• If the blemish is on the outside of the glass, try cleaning the CRT screen</li> </ul>
Brightness Problems	Picture too dim or too bright	<ul style="list-style-type: none"> <li>• Perform monitor reset</li> <li>• Adjust brightness &amp; contrast controls</li> </ul>
Geometric Distortion	Screen not sized or centered correctly	<ul style="list-style-type: none"> <li>• Perform monitor reset</li> <li>• Ensure monitor is in proper video mode</li> <li>• Adjust the appropriate geometric control</li> </ul>
Moiré (Thin Curvy Lines)	Screen has wavy or elliptical lines  Screen has wood grain patterns	<ul style="list-style-type: none"> <li>• Ensure monitor is in proper video mode</li> <li>• Adjust size first then the moiré controls</li> </ul>
Horizontal/Vertical Lines	Screen has one or more lines	<ul style="list-style-type: none"> <li>• Perform monitor self test feature check</li> <li>• Check for bent or broken pins</li> <li>• Horizontal lines could be damper wires</li> </ul>
Sync Problems	Screen is scrambled or appears torn	<ul style="list-style-type: none"> <li>• Perform monitor self test feature check</li> <li>• Check for bent or broken pins</li> </ul>

		<ul style="list-style-type: none"> <li>• Boot up in the "safe mode"</li> </ul>
Audible Noise Problems	Has humming sound or high frequency squeal	<ul style="list-style-type: none"> <li>• Ensure monitor is in proper video mode</li> <li>• Reposition the monitor</li> <li>• Loud hum when turning on is normal</li> </ul>
CRT Scratched	Screen has scratches or smudges	<ul style="list-style-type: none"> <li>• Turn monitor off and clean the screen</li> </ul>
Safety Related Issues	Visible signs of smoke or sparks	<ul style="list-style-type: none"> <li>• Do not perform any troubleshooting steps</li> <li>• Monitor needs to be replaced</li> </ul>
Intermittent Problems	Monitor malfunctions on & off	<ul style="list-style-type: none"> <li>• Ensure monitor is in proper video mode</li> <li>• Perform monitor reset</li> <li>• Perform monitor self test feature check</li> </ul>

## PRODUCT SPECIFIC SYMPTOMS

SPECIFIC SYMPTOMS	WHAT YOU SEE	POSSIBLE SOLUTIONS
Two fine lines on the screen.	Two fine horizontal lines (wires) are visible.	These damper wires stabilize the vertically striped aperture grille. This aperture grille allows more light to pass through to the screen giving the Trinitron CRT more color and brightness



## Warranty: Dell™ UltraScan P780 Color Monitor User's Guide

[Limited One-Year Warranty \(U.S. Only\)](#) • [Limited One-Year Warranty \(Canada Only\)](#) • ["Total Satisfaction" Return Policy \(U.S. and Canada\)](#) • [One Year Dell Manufacturer End-User Guarantee European Union, Norway and Switzerland](#)

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### Limited One-Year Warranty (U.S. Only)

Dell Computer Corporation ("Dell") manufactures its hardware products from parts and components that are new or equivalent to new in accordance with industry-standard practices. Dell warrants that the hardware products it sells will be free from defects in materials and workmanship. The warranty term is one year beginning on the date of delivery.

Damage due to shipping the products to you is covered under this warranty. Otherwise, this warranty does not cover damage due to external causes, including accident, abuse, misuse, problems with electrical power, servicing not authorized by Dell, usage not in accordance with product instructions, and failure to perform required preventive maintenance.

Dell will repair or replace products returned to Dell's facility. To request warranty service, you must call Dell customer service within the warranty period. If warranty service is required, Dell will issue a Return Material Authorization Number. You must ship the products back to Dell in their original packaging or equivalent, prepay shipping charges, and you must insure the shipment or accept the risk of loss or damage during shipment. Dell will ship the repaired or replacement products to you freight prepaid if you use an address in the United States (excluding Puerto Rico and U.S. possessions). Shipments to other locations will be made freight collect.

Dell owns all parts removed from repaired products. Dell uses new and reconditioned parts made by various manufacturers in performing warranty repairs and building replacement products. If Dell repairs a product, its warranty term is not extended; if Dell replaces a product, the replacement is warranted for the remainder of the original term or 60 days, whichever is longer.

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DELL'S RESPONSIBILITY FOR MALFUNCTIONS AND DEFECTS IN HARDWARE IS LIMITED TO REPAIR AND REPLACEMENT AS SET FORTH ABOVE. THESE WARRANTIES GIVE YOU

SPECIFIC LEGAL RIGHTS AND YOU MAY ALSO HAVE OTHER RIGHTS WHICH VARY FROM STATE TO STATE.

Dell DOES NOT ACCEPT LIABILITY BEYOND THE REMEDIES SET FORTH IN THIS WARRANTY STATEMENT OR LIABILITY FOR INCIDENTAL OR CONSEQUENTIAL DAMAGES, INCLUDING WITHOUT LIMITATION ANY LIABILITY FOR PRODUCTS NOT BEING AVAILABLE FOR USE OR FOR LOST DATA OR SOFTWARE.

SOME STATES DO NOT ALLOW THE EXCLUSION OR LIMITATION OF INCIDENTAL OR CONSEQUENTIAL DAMAGES, SO THE ABOVE EXCLUSION OR LIMITATION MAY NOT APPLY TO YOU.

These provisions apply to Dell's return-to-factory warranty only. For provisions of any on-site service contract covering your system, refer to the separate on-site service contract that you will receive.

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### **Limited One-Year Warranty (Canada Only)**

Dell Computer Corporation ("Dell") warrants that the hardware products it sells will be free from defects in materials and workmanship. The warranty term is one year beginning on the date of delivery. This warranty is transferable with the warranted products.

Damage due to shipping the products to you is covered under this warranty. Otherwise, this warranty does not cover damage due to external causes, including accident, abuse, misuse, problems with electrical power, servicing not authorized by Dell, usage not in accordance with product instructions, and failure to perform required preventive maintenance.

Dell will repair or replace products returned to Dell's facility. To request warranty service, you must call Dell customer service within the warranty period. If warranty service is required, Dell will issue a Return Material Authorization Number. You must ship the products back to Dell in their original packaging or equivalent, prepay shipping charges, and you must insure the shipment or accept the risk of loss or damage during shipment. Dell will ship the repaired or replacement products to you freight prepaid if you use an address in Canada. Shipments to other locations will be made freight collect.

Dell owns all parts removed from repaired products. Dell uses new and reconditioned parts made by various manufacturers in performing warranty repairs and building replacement products. If Dell repairs a product, its warranty term is not extended except as may be required by law; if Dell replaces a product, the replacement is warranted for the remainder of the original term or 60 days, whichever is longer.

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### **"Total Satisfaction" Return Policy (U.S. and Canada)**

If you bought products directly from a Dell company, you may return them to Dell up to 30 days from the day they are delivered for a complete refund of the purchase price. If your company bought the products under a Corporate Performance Agreement with a Dell company, there are limits on when products may be returned to Dell under this policy. Please consult the person in your company that is the liaison with Dell for more information. To return products, you must call Dell customer service to receive a Credit Return Authorization Number. You must ship the products to Dell in their original packaging, prepay shipping charges, and insure the shipment or accept the risk of loss or damage during shipment. Returned products must be in as-new condition, and all of the manuals, diskettes, power cables, and other items included with a product must be returned with it.

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### **One Year Dell Manufacturer End-User Guarantee European Union, Norway and Switzerland**

#### **Guarantee**

DELL Products, Raheen Industrial Estate, Limerick, Ireland (DELL) warrants to the end-user in accordance with the following provisions that its branded hardware products, purchased by the end-



user from a DELL company or an authorized DELL distributor, in the European Union, Norway or Switzerland, will be free from defects in materials, workmanship and design affecting normal use, for a period of one year as of the original purchase date. Products for which proper claims are made will, at DELL's option, be repaired or replaced at DELL's expense.

### **Exclusions**

This Guarantee does not apply to defects resulting from: improper or inadequate installation, use or maintenance; actions or modifications by unauthorized third parties or the end-user; accidental or willful damage or normal wear and tear.

### **Making a claim**

Claims must be made in the European Union, Norway or Switzerland, by contacting the point of sale or any DELL office within the guarantee period. The end-user must always supply proof of purchase, indicating name and address of the seller, date of purchase, model and serial number, name and address of the customer and details of symptoms and configuration at time of malfunction, including peripherals and software used. Otherwise, DELL may refuse the guarantee claim. Upon diagnosis of a warranted defect, DELL will make arrangements, and pay for ground freight and insurance to and from DELL repair/ replacement center. End-user must ensure defective product is available for collection properly packed in original or equally protective packaging together with details listed above and the return number provided to the end-user by DELL.

### **Limitation and Statutory Rights**

DELL makes no other warranty, guarantee or like statement other than as explicitly stated above and this Guarantee is given in place of all other guarantees whatsoever, to the fullest extent permitted by law. In the absence of applicable legislation, this Guarantee will be the end-user's sole and exclusive remedy against DELL or any of its affiliates, and neither DELL nor any of its affiliates shall be liable for loss of profit or contracts, or any other indirect or consequential loss arising from negligence, breach of contract, or howsoever.

This Guarantee does not impair or affect mandatory statutory rights of the end-user against and/or any rights resulting from other contracts concluded by the end-user with DELL and/or any other seller.

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